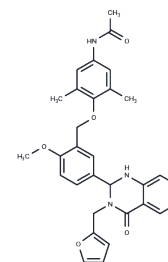


ML224

Chemical Properties

CAS No. : 1338824-21-7
 Formula: C₃₁H₃₁N₃O₅
 Molecular Weight: 525.59
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	ML224 (NCGC00242364) is a TSHR antagonist for the treatment of Graves' orbital disease and Graves' hyperthyroidism.
Targets(IC50)	TSH Receptor
In vitro	In human embryonic kidney 293 cells, ML224 exhibits a half-maximal inhibitory concentration (IC ₅₀) of 2.1 μM against TSHR after a 20-minute exposure, with a range of 0.001-100 μM. The half-maximal inhibitory concentrations against LH and FSH receptors exceed 30 μM[1].
In vivo	ML224(ANTAG3) 2 mg per mouse; administered through intraperitoneal infusion pump; once daily for 3 days) reduces serum FT4 levels and thyroid mRNA of TPO and NIS in mice subjected to prolonged TRH stimulation[1].

Solubility Information

Solubility	DMSO: 80 mg/mL (152.21 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (6.28 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9026 mL	9.5131 mL	19.0262 mL
5 mM	0.3805 mL	1.9026 mL	3.8052 mL
10 mM	0.1903 mL	0.9513 mL	1.9026 mL
50 mM	0.0381 mL	0.1903 mL	0.3805 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Neumann S, et al. A selective TSH receptor antagonist inhibits stimulation of thyroid function in female mice. *Endocrinology*. 2014 Jan;155(1):310-4.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481